## IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 65. (*Cancelled*).

66. (*Withdrawn*) A wireless communication-enabled meter, comprising:

a metering device configured to generate meter-related data;

a transceiver configured to wirelessly communicate with a self-configuring wireless network; and

an interface that facilitates communication between the metering device and the transceiver, the interface including a configuration module that stores the identity of the metering device and executes a self-configuration cycle to establish connectivity with the wireless network,

wherein upon establishing connectivity, the wireless network is capable of accessing the meter-related data.

67. (*Withdrawn*) The meter of claim 66, wherein the meter-related data comprises measured usage information, monitoring information, and/or control information capable of controlling the metering device.

68. (*Withdrawn*) The meter of claim 66, wherein the transceiver and self-configuring wireless network operate in accordance with a wireless transmission protocol.

69. (*Withdrawn*) The meter of claim 66, wherein the self-configuration cycle is executed upon initialization and/or upon a detected disruption in connectivity.

70. (*Withdrawn*) The meter of claim 66, wherein the configuration module stores information regarding the identities and/or location of at least one other wireless communication-enabled meter associated with the self-configuration wireless network.

71. (*Withdrawn*) The meter of claim 66, wherein the configuration module stores routing information regarding at least one other wireless communication-enabled meter associated with the self-configuration wireless network.

72. (*Withdrawn*) The meter of claim 66, wherein the configuration module is configured to execute a polling procedure to poll at least one other wireless communication-enabled meter associated with the self-configuration wireless network.

73. (*Withdrawn*) The meter of claim 66, wherein the configuration module is configured with encryption capability to encrypt communications between the metering device and the self-configuration wireless network.

74. (*Withdrawn*) A wireless module for use with a metering device, comprising:

a transceiver configured to wirelessly communicate meter-related data with a self-configuring wireless network; and

an interface that facilitates communication between the metering device and the transceiver, the interface including a configuration module that stores the identity of the metering device and executes a self-configuration cycle to establish connectivity to the wireless network.

75. (*Withdrawn*) The wireless module of claim 74, wherein the meter-related data comprises measured usage information, monitoring information, and/or control information and/or control information capable of controlling the metering device.

76.  (*Withdrawn*)  The wireless module of claim 74, wherein the transceiver and self-configuring wireless network operate in accordance with a wireless transmission protocol.

77.  (*Withdrawn*)  The wireless module of claim 74, wherein the configuration module stores information regarding the identities and/or location of at least one other wireless module associated with the self-configuration wireless network.

78.  (*Withdrawn*)  The wireless module of claim 74, wherein the configuration module stores routing information regarding at least one other wireless module associated with the self-configuration wireless network.

79.  (*Withdrawn*)  The wireless module of claim 74, wherein the self-configuration cycle is executed upon initialization and/or upon a detected disruption in connectivity.

80.  (*Withdrawn*)  The wireless module of claim 74, wherein the configuration module is configured to execute a polling procedure to poll at least one other wireless module associated with the self-configuration wireless network.

81.  (*Withdrawn*)  The wireless module of claim 74, wherein the configuration module is configured with encryption capability to encrypt communications between the wireless module and the self-configuration wireless network.

82. – 138. (*Cancelled*).

139. (*New*):  A self-configuring wireless network, comprising:

a first network including a plurality of self-configuring, individually addressable virtual nodes in which individual virtual nodes are independently operative to:

(a) initiate and establish a wireless communication connection with any other self-configuring virtual node associated with the first network during a self-configuration process,

(b) store information regarding the identities and/or location of other self-configuring virtual nodes with which the node has established a communication connection,

(c) generate data and transmit the data to other virtual nodes with which the node has established a communication connection, and

(d) receive data from virtual nodes and forward the data to other virtual nodes with which the node has established a communication connection; and

a virtual gate communicatively coupled to the first network and configured to provide a communication access point between the first network and at least one external network.

140.  (*New*):  The self-configuring wireless network of claim 139, further comprising:

a second network including a plurality of self-configuring, individually addressable virtual nodes in which individual virtual nodes are independently operative to:

(a) initiate and establish a wireless communication connection with any other self-configuring virtual node associated with the second network during a self-configuration process,

(b) store information regarding the identities and/or location of other self-configuring virtual nodes with which the node has established a communication connection,

(c) generate data and transmit the data to other virtual nodes with which the node has established a communication connection, and

(d) receive data from virtual nodes and forward the data to other virtual nodes with which the node has established a communication connection; and

wherein the first network communicates with the second network via a wireless communication connection between at least virtual node associated with the first network and at least one virtual node associated with the second network.

141. (*New*): The self-configuring wireless network of claim 140, wherein the self-configuration process is executed upon initialization of the self-configuring virtual nodes and/or upon a detected disruption in connectivity between the self-configuring virtual nodes.

142. (*New*):  The self-configuring wireless network of claim 141,

wherein in response to a disruption in the first network, at least one of the self-configuring virtual nodes of the first network establishes connectivity and becomes associated with the second network during its self-configuration process, and

wherein in response to a disruption in the second network, at least one of the self-configuring virtual nodes of the second network establishes connectivity and becomes associated with the first network during its self-configuration process.

143. (*New*):  The self-configuring wireless network of claim 140, wherein the individual self-configuring virtual nodes are further configured with the capability to maintain a routing table that comprises routing information, at any given instant in time, about other virtual nodes with which the individual nodes have established a communication connection.

144. (*New*):   The self-configuring wireless network of claim 140, wherein the individual self-configuring virtual nodes are further configured with the capability to execute a periodic polling procedure to poll other self-configuring virtual nodes with which the individual nodes have established a communication connection and check for messaging information.

145. (*New*):   The self-configuring wireless network of claim 140, wherein the individual self-configuring virtual nodes are further configured with the capability to encrypt communications with other self-configuring virtual nodes with which the individual nodes have established a communication connection.

146. (*New*): The self-configuring wireless network of claim 139, wherein the virtual gate comprises a computer network gateway.

147. (*New*): The self-configuring wireless network of claim 139, wherein the virtual gate stores geographic location of all self-configuring virtual nodes within a pre-specified distance of the virtual gate.

148. (*New*): The self-configuring wireless network of claim 140, wherein the self-configuring virtual nodes communicate in compliance with a wireless transmission protocol.

149. (*New*): The self-configuring wireless network of claim 148, wherein the wireless transmission protocol employs at least one multiplexed communication channel such that each multiplexed channel employs a different transmission frequency.

150. (*New*): The self-configuring wireless network of claim 148, wherein the wireless transmission protocol employs a first protocol channel for upstream communication and a second protocol channel for downstream communication.

151. (*New*) A virtual network operations entity associated with a self-configuring wireless communication network that includes a plurality of self-configuring, individually addressable virtual nodes in which individual virtual nodes are independently operative to (a) initiate and establish a wireless communication connection with any other self-configuring virtual node in the network during a self-configuration process, (b) store information regarding the identities and/or location of other self-configuring virtual nodes with which the node has established a communication connection, (c) generate data and transmit the data to other virtual nodes with which the node has established a communication connection, and (d) receive data from virtual nodes and forward the data to other virtual nodes with which the node has established a communication connection, said virtual network operating entity comprising:

a communication interface configured to accommodate a plurality of communication protocols to facilitate communications between the virtual nodes of the self-configuring wireless communication network and at least one external network;

an event naming module configured to identify pre-specified events;

an event database configured to store information regarding the pre-specified events;

an event management module configured to process and manage occurrences of the pre-specified events; and

a communication management module configured to manage communication of the pre-specified events between the self-configuring wireless communication network and the at least one external network.

152. (*New*) The virtual network operations entity of claim 151, further comprising a configuration management module that specifies one or more of interface information, protocol information, and pre-specified services.

153. (*New*) The virtual network operations entity of claim 151, further comprising a security management module that manages security of communications between the self-configuring wireless communication network and at least one external network.

154. (*New*) The virtual network operations entity of claim 151, further comprising an error and recovery management module that manages detection of, and recovery from, communication errors.

155. (*New*) The virtual network operations entity of claim 151, further comprising a replication redundancy management module that replicates attribute information regarding the self-configuration wireless communication network.

156. (*New*) The virtual network operations entity of claim 151, further comprising a billing module that tracks and bills usage of services provided by the self-configuring wireless communication network.

157. (*New*) The virtual network operations entity of claim 151, further comprising an audit and logging module.

158. (*New*) The virtual network operations entity of claim 151, further comprising a publication and subscription management module that manages the publication of the occurrences of the pre-specified events.

159. (*New*)  The virtual network operations entity of claim 151, wherein the communication interface facilitates remote monitoring of at least one self-configuring virtual node of the self-configuring wireless communication network.

160. (*New*)  The virtual network operations entity of claim 151, wherein the communication interface includes a customer interface.

161. (*New*) The virtual network operations entity of claim 160, wherein the customer interface comprises a web browser interface, electronic mail interface, a customized Internet Protocol application interface, a telephone interface, a modem interface, and/or a paging device interface.

162. (*New*)  The virtual network operations entity of claim 151, wherein the communications interface includes a network interface.

163. (*New*) The virtual network operations entity of claim 162, wherein the network interface comprises a Bluetooth interface, a cellular communication interface, a satellite communication interface, an Internet interface, a power distribution network interface, and/or any interface configured to operatively communicate with any other public or private network.

164. (*New*): A self-configuring wireless network, comprising:

(I)   a network cluster, comprising:

(a) a first network including a plurality of self-configuring, individually addressable virtual nodes in which individual virtual nodes are independently operative to (i) initiate and establish a wireless communication connection with any other self-configuring virtual node associated with the first network during a self-configuration process, (ii) store information regarding the identities and/or location

of other self-configuring virtual nodes with which the node has established a communication connection, (iii) generate data and transmit the data to other virtual nodes with which the node has established a communication connection, and (iv) receive data from virtual nodes and forward the data to other virtual nodes with which the node has established a communication connection;

(b) a second network including a plurality of self-configuring, individually addressable virtual nodes in which individual virtual nodes are independently enabled with the capabilities to (i) initiate and establish a wireless communication connection with any other self-configuring virtual node associated with the second network during a self-configuration process, (ii) store information regarding the identities and/or location of other self-configuring virtual nodes with which the node has established a communication connection, (iii) generate data and transmit the data to other virtual nodes with which the node has established a communication connection, and (iv) receive data from virtual nodes and forward the data to other virtual nodes with which the node has established a communication connection;

(c) wherein the first network communicates with the second network via a wireless communication connection between at least virtual node associated with the first network and at least one virtual node associated with the second network;

(II)     a virtual gate being communicatively coupled to the first and/or second network and configured to provide a communication access point between the network cluster and at least one external network; and

(III)    a virtual network operations entity configured to facilitate communications between the network cluster and at the least one external network.


165. (*New*): The self-configuring wireless network of claim 164, wherein the self-configuration process is executed upon initialization of the self-configuring virtual nodes

and/or upon a detected disruption in connectivity between the self-configuring virtual nodes.

166. (*New*): The self-configuring wireless network of claim 164,

wherein in response to a disruption in the first network, at least one of the self-configuring virtual nodes of the first network establishes connectivity and becomes associated with the second network during its self-configuration process, and

wherein in response to a disruption in the second network, at least one of the self-configuring virtual nodes of the second network establishes connectivity and becomes associated with the first network during its self-configuration process.

167. (*New*): The self-configuring wireless network of claim 164, wherein the individual self-configuring virtual nodes are further configured with the capability to maintain a routing table that comprises routing information, at any given instant in time, about other virtual nodes with which the individual nodes have established- a communication connection.

168. (*New*): The self-configuring wireless network of claim 164, wherein the individual self-configuring virtual nodes are further configured with the capability to execute a periodic polling procedure to poll other self-configuring virtual nodes with which the individual nodes have established a communication connection and check for messaging information.

169. (*New*): The self-configuring wireless network of claim 164, wherein the individual self-configuring virtual nodes are further configured with the capability to encrypt communications with other self-configuring virtual nodes with which the individual nodes have established a communication connection.

170. (*New*) The self-configuring wireless network of claim 164, wherein the virtual gate comprises a computer network gateway.

171. (*New*) The self-configuring wireless network of claim 164, wherein the virtual gate wirelessly communicates with the at least one external network.

172. (*New*) The self-configuring wireless network of claim 164, wherein the virtual gate communicates with the at least one external network via wired communication.

173. (*New*) The self-configuring wireless network of claim 164, wherein the virtual gate comprises an intelligence module that stores geographic location of all virtual nodes within a pre-specified distance of the virtual gate such that the location of a specific virtual node may be is determined from the virtual gate.

174. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity comprises:

a communication interface configured to accommodate a plurality of communication protocols employed during communications between the network cluster and the at least one external network;

an event naming module configured to identify pre-specified events;

an event database configured to store information regarding the pre-specified events;

an event management module configured to process and manage occurrences of the pre-specified events; and

a communication management module configured to manage communication of the pre-specified events between the network cluster and the at least one external network.

175. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity further comprises a configuration management module that specifies one or more of interface information, protocol information, and pre-specified services.

176. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity further comprises a security management module that manages security of communications between the self-configuring wireless communication network and at least one external network.

177. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity further comprises an error and recovery management module that manages detection of, and recovery from, communication errors.

178. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity further comprises a replication redundancy management module that replicates attribute information regarding the self-configuration wireless communication network.

179. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity further comprises a billing module that tracks and bills usage of services provided by the self-configuring wireless communication network.

180. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity further comprises an audit and logging module.

181. (*New*) The self-configuring wireless network of claim 164, wherein the virtual network operations entity further comprises a publication and subscription management module that manages the publication of the occurrences of the pre-specified events.

182. (*New*) The self-configuring wireless network of claim 164, wherein the communication interface facilitates remote monitoring of at least one self-configuring virtual node of the network cluster.

183. (*New*) The self-configuring wireless network of claim 164, wherein the communication interface includes a customer interface.

184. (*New*) The self-configuring wireless network of claim 183, wherein the customer interface comprises a web browser interface, electronic mail interface, a customized Internet Protocol application interface, a telephone interface, a modem interface, and/or a paging device interface.

184. (*New*) The self-configuring wireless network of claim 164, wherein the communications interface includes a network interface.

185. (*New*) The self-configuring wireless network of claim 184, wherein the network interface comprises a Bluetooth interface, a cellular communication interface, a satellite communication interface, a MicroBurst interface, an Internet communication application interface, an OrbComm interface, a GSM interface, and/or a Cellemetry interface.

186. (*New*) A method of implementing a self-configuring individually addressable virtual node, comprising:

providing the virtual node with instructions to execute a self-configuration process in order to independently initiate and establish a wireless communication connection with other virtual nodes associated with a first network;

enabling the virtual node to store information regarding the identities and/or location of the other virtual nodes with which the node has established a communication connection;

enabling the virtual node to generate data and transmit the data to other virtual nodes with which the node has established a communication connection; and

enabling the virtual node to receive data from virtual nodes and forward the data to other virtual nodes with which the node has established a communication connection.

187. (*New*) The method of claim 186, wherein the self configuring process is based on a set of transmission rules comprising specifying a maximum number of node hops that can be used to reach a communication point, and/or connecting to a sub-network having the smallest number of node hops to the communication point.

188. (*New*) The method of claim 186, further comprising providing the virtual node with instructions to execute a periodic polling procedure to poll other self-configuring virtual nodes with which the node has established a communication connection and check for messaging information.

189. (*New*) The method of claim 186, further comprising executing the self-configuration cycle to establish connectivity with a second network if the initial connectivity with the first network fails or if connectivity with the first network has been subsequently disrupted.

190. (*New*): The method of claim 187, further comprising providing the virtual node with instructions to include information regarding the geographic location of the closest communication point.

191. (*New*) The method of claim 186, further comprising providing the virtual node with instructions to identify and store routing information regarding other virtual nodes associated with the first and/or second network.

192. (*New*) The method of claim 186, further comprising providing the virtual node with instructions to encrypt communications.

193. (*New*): The self-configuring wireless network of claim 186, further comprising providing the virtual node with instructions to communicate in compliance with a wireless transmission protocol.

194. (*New*): The self-configuring wireless network ·of claim 193, wherein the wireless transmission protocol employs at least one multiplexed communication channel such that each multiplexed channel employs a different transmission frequency.

195. (*New*): The self-configuring wireless network of claim 193, wherein the wireless transmission protocol employs a first protocol channel for upstream communication and a second protocol channel for downstream communication.

196. (*Currently Amended*): A method of implementing a self-configuring wireless network containing a plurality of self-configuring, individually addressable virtual nodes and at least one virtual gate, said method comprising:

providing the virtual nodes with instructions to execute a self-configuration process in order to independently initiate and establish a wireless communication connection with other virtual nodes;

enabling the virtual nodes to store information regarding the identities and/or location of the other virtual nodes with which the node has established a communication connection;

enabling the virtual nodes to generate data and transmit the data to other virtual nodes with which the node has established a communication connection;

enabling the virtual nodes to receive data from virtual nodes and forward the data to other virtual nodes with which the node has established a communication connection;

providing the virtual nodes with instructions to broadcast a request for the virtual gate;

providing the virtual nodes with instructions to store a route to the virtual gate in a routing table based on responses from other virtual nodes;

storing transport-agent parameters for access to the virtual gate in the routing table if a message is received from the virtual gate; and

storing a metric indicating proximity to the virtual gate.


197. (*New*) The method of claim 196, wherein the metric comprises 0 if the access to the designated virtual gate comprises a direct link.


198. (*New*) The method of claim 196, further comprising:

receiving a request message from a path-seeking virtual node; and

transmitting a response to the path-seeking virtual node request message comprising availability as a path to the designated virtual gate and the metric.

199. (*New*) The method of claim 198, wherein the path seeking virtual node is an unconfigured virtual node.

200. (*New*) The method of claim 198, wherein the path seeking virtual node is a configured virtual node searching for a more efficient path.

201. (*New*) The method of claim 196, wherein storing a route to the virtual gate based on the response received from the virtual nodes comprises:

receiving a response from a plurality of virtual nodes;

choosing a first configured virtual node to be a gateway based on metric and transport-agent parameters; and

transmitting an acknowledgement to the first configured virtual node.